Integrity Management

WUTC Pipeline Safety Seminar May 25, 2005

Talking Points

- Background Why Integrity Management
- Important Dates Pipeline Safety
 Improvement Act 2002
- Successful Program Development
- Program Development Resources
- OPS Implementation Plans
- Questions and Answers

Why Integrity Management

- High Profile Incidents
 - ▶ Prompted Congress to Include Pipeline Safety Requirements in the "Pipeline Safety Improvement Act of 2002"
 - > Fostered an Increase in Public Awareness
 - Recognition of Ageing Infrastructure
 - Supply Concerns

Why Integrity Management

Pipeline Safety Improvement Act of 2002:

- Signed by the President December 17, 2002
- Required OPS to Publish IM Regulations by December 17, 2003

OPS Approach to Integrity Management

- OPS Recognized Industry Safety Record
- Risk Management Demonstration Programs Provided Insight into the Solution: "Improved Management Systems"
- OPS Developed the IM Regulation with Focus Toward the Protection of <u>People</u> by Preventing Incidents in <u>High</u> <u>Consequence Areas</u>

OPS Approach to Integrity Management (Goals)

- Accelerate Assessments of Pipelines in High Consequence Areas (HCAs)
- Promote Rigorous, Systematic
 Management of Pipeline Integrity
- Enhance Governmental Oversight of Pipeline Company Integrity Plans and Programs
- Increase Public Assurance in Pipeline Safety

OPS Approach to Integrity Management

- OPS Developed an Integrity Management Inspection Approach Focusing on:
 - > Operator Processes for Managing Integrity
 - > Operator Process Implementation
- This is the Basis of the Inspection Protocols

Important Dates Not Found In the Regulation!

Pipeline Safety Improvement Act of 2002

- By June 17, 2004, Each Operator Must Have Began Its Preparation to <u>Conduct</u> <u>a Baseline Assessment</u> on <u>at Least One</u> <u>High Risk Segment</u> That the Operator <u>Has Already Identified</u>
- Preparing to Conduct a Baseline Assessment Means That –

Advisory Bulletin - Nov. 17, 2003:

- An Operator Has Scheduled for <u>Assessment</u> the Segments Identified Prior to June 17, 2004; AND
- An Operator Has Started to Contract or Has Entered Into a Contract With a Tool Vendor to Assess the Identified Segments; Or

Advisory Bulletin – Nov. 17, 2003:

- An Operator Has <u>Started to Assess</u> the First Scheduled Segment.
- An Operator Has <u>Installed Launchers or</u> <u>Receivers</u> for Internal Inspection <u>Devices</u>; Or

Advisory Bulletin – Nov. 17, 2003:

- An Operator Has <u>Set up a Segment</u> for a Pressure Test; Or
- An Operator Has <u>Completed the Pre-assessment Step</u> for Direct Assessment.

Advisory Bulletin: NPMS Submission

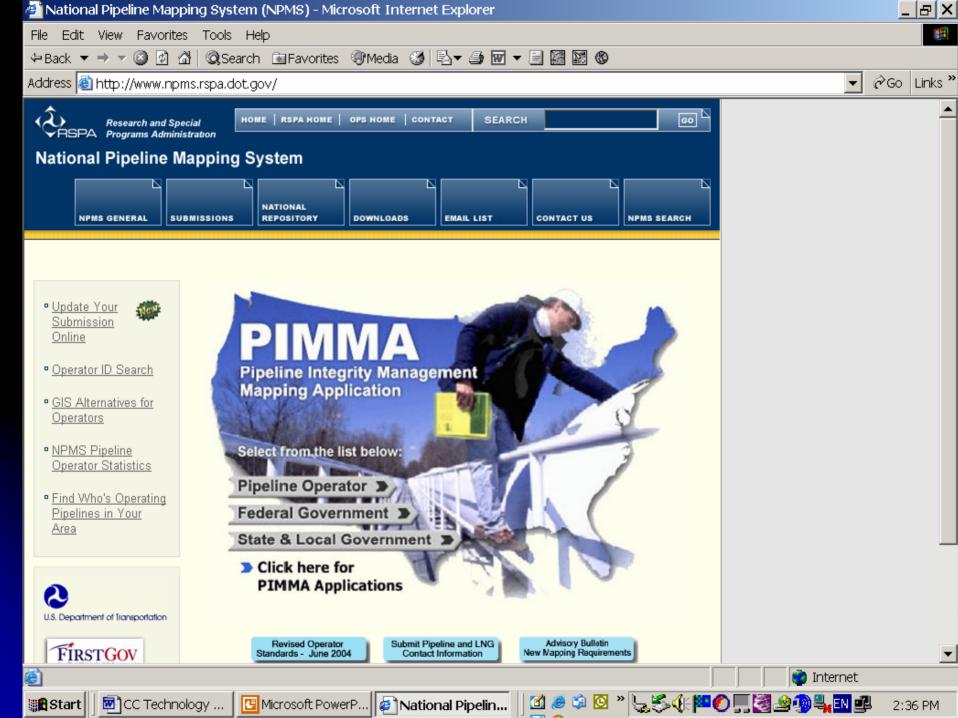
- June 17, 2003 Provide OPS:
 - ➤ Geospatial Data or Data in a Format that can be Readily Converted to Geospatial Data
 - Name and Address of Pipeline Operator
 - A Means for a Person of the General Public to Contact the Operator for Additional Information

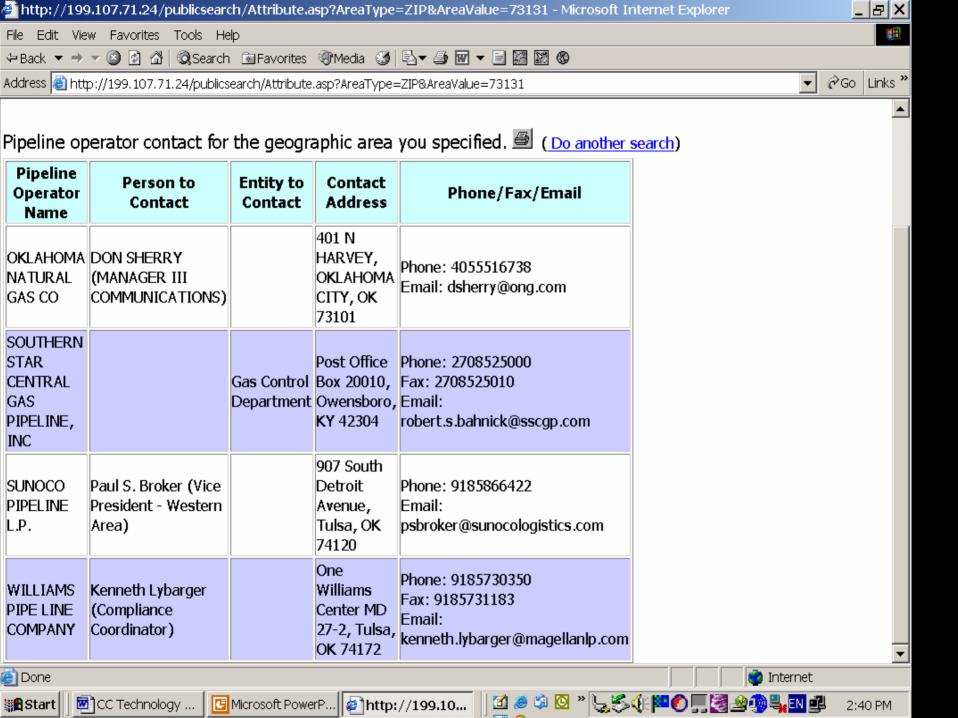
Advisory Bulletin: NPMS Submission

Provide Updates Every 12-Months To:

http://www.npms.rspa.dot.gov/submissions/standards.htm

- If No Modification Have Occurred Send Email Stating this To:
 - >opsgis@rspa.dot.gov





Successful Program Development

Considerations for Integrity
Management Program
Development

Successful Program Development

- Rule Requires You to Develop an: "Integrity Management Program"
- An "Integrity Management Program" is: Collectively, a Set of Documents that Systematically Define, Control, and Implement Integrity Management

- Program Development Begins with a "Framework"
 - ➤ Guiding Document For Integrity Management "Program" Development

- Framework Outlines Development of Program Key Elements, Plans, and Processes:
 - Who (Responsibility)
 - What (Activity Required)
 - When (Schedules)
 - How (Improvements or Changes are Incorporated)

Successful Program Development

 The Framework Must Address the Required <u>Key</u> Integrity Management <u>Program</u> Elements Set Out In 192.911

Program Elements

- HCA Identification
- Baseline Assessment
- Threat/Risk ID
- DA Plan-if applicable
- Remediation
- Continual Evaluation
- Confirmatory DA
- Prev/Mitigative

- Performance Metrics
- Recordkeeping
- Mgt of Change
- Quality Control
- Communication Plan
- Submittals to Reg.
- Min. Env/Safety Risk
- Identify New HCAs

- Successful Programs Include:
 - Identification of IM Task to be Accomplished
 - Details for How IM Tasks are to be Accomplished
 - Identification of Roles and Responsibilities for Completing The Tasks

Successful Programs Include:

- > Timelines for Completion of IM Tasks
- Communication of IM Tasks Results to Key Personnel
- > Records & Documentation

For Successful Program Development:

➤ Appropriate Resources Need to be Allocated

Build on Existing Programs (e.g., O&M)

For Successful Program Development:

- Conduct Gap Analysis to Identify Missing Program or Process Elements
- Plans and Supporting Processes are Expected to Improve with Time as Operators Gain Experience – Need Method and Triggers for Process Review

For Successful Program Development:

- ► IM Plans and Processes Should be in Place Prior to Conducting an IM Activity
- Framework is Acceptable for IM Activities Not Underway

<u>Implementation</u>

Follow IM Plan Processes and Procedures

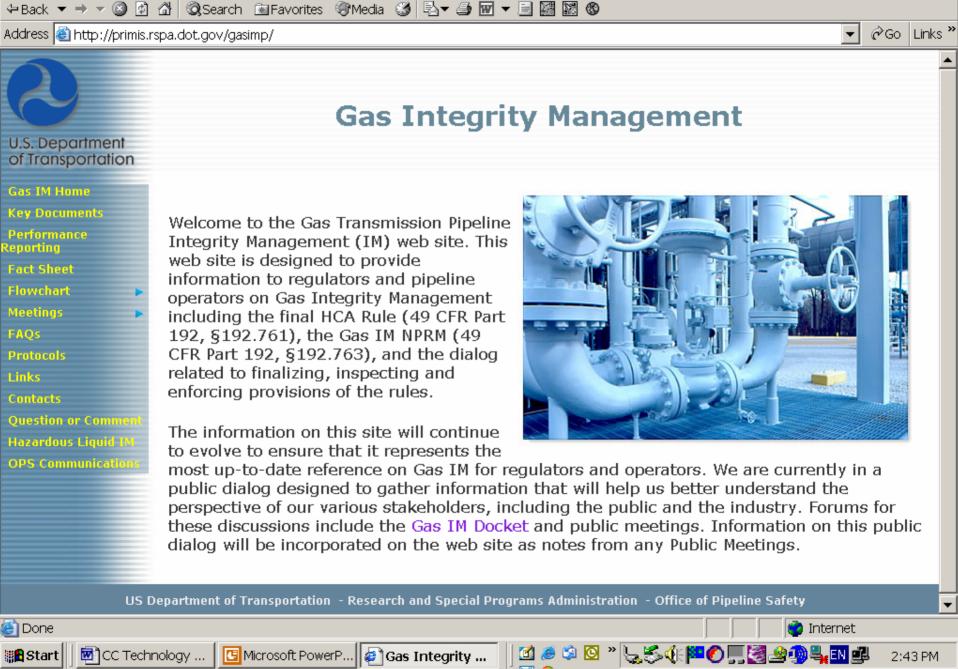
 OPS Will Take an Example and Follow Through from Beginning to End to Verify Implementation

<u>Implementation</u>

- Develop Forms and Documentation to Demonstrate Program Implementation
 - Analysis Worksheets, Contracts, Repair Schedules, Assessment Datasheets, Memo's to File, GIS, Repair Records, MOC Forms, etc.
 - > Printed or Electronic Formats
 - Demonstrate Compliance with Dates in the Rule

Gas Integrity Management Web Site:

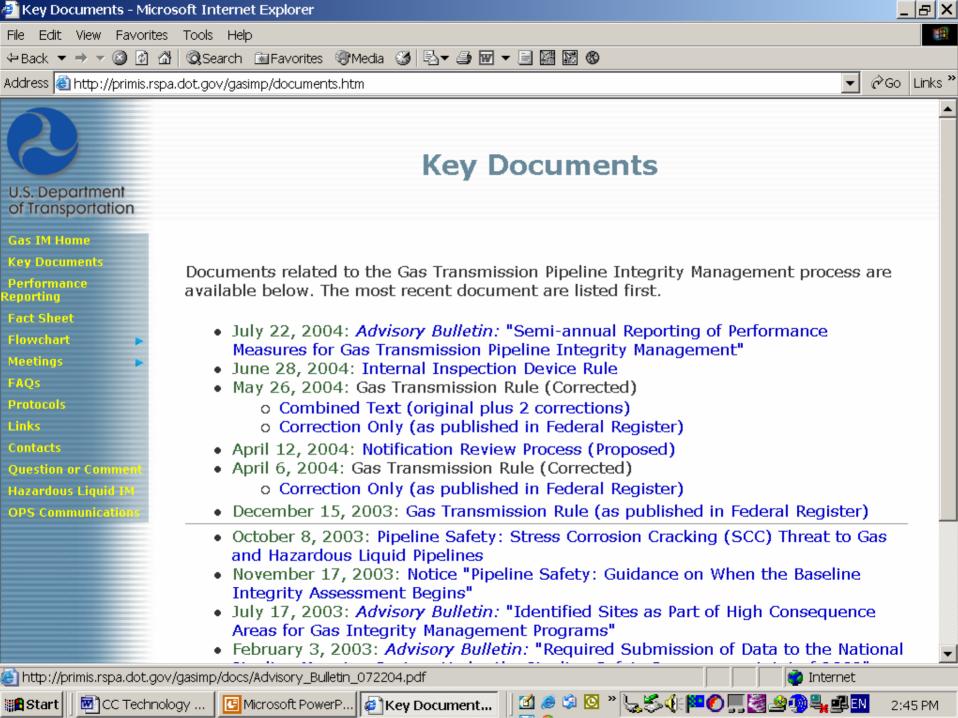
http://primis.rspa.dot.gov/gasimp/



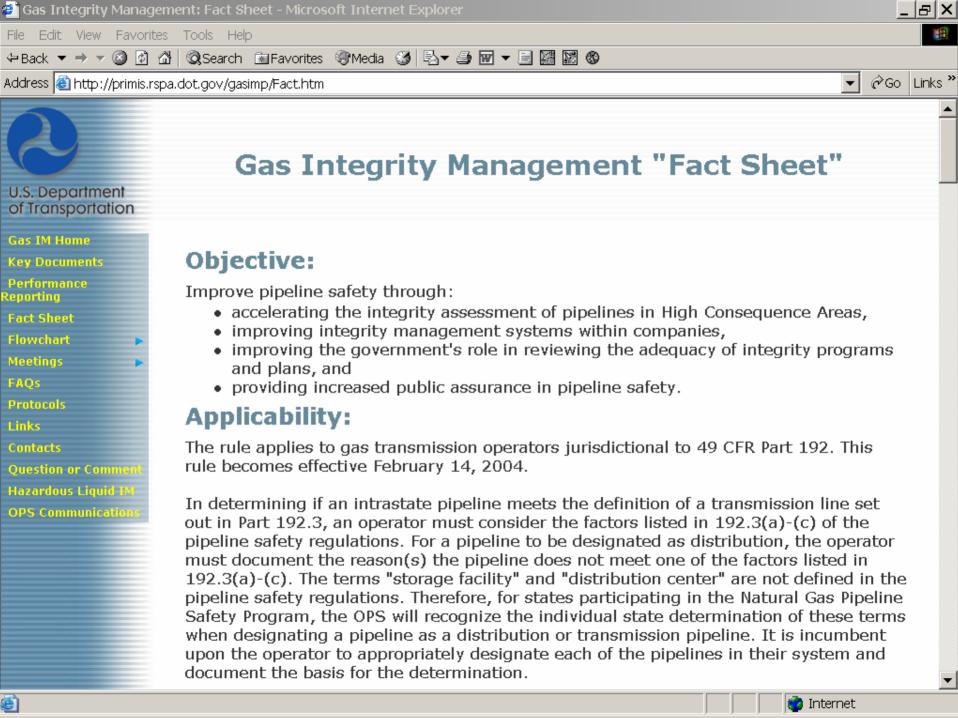
Gas Integrity Management: Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

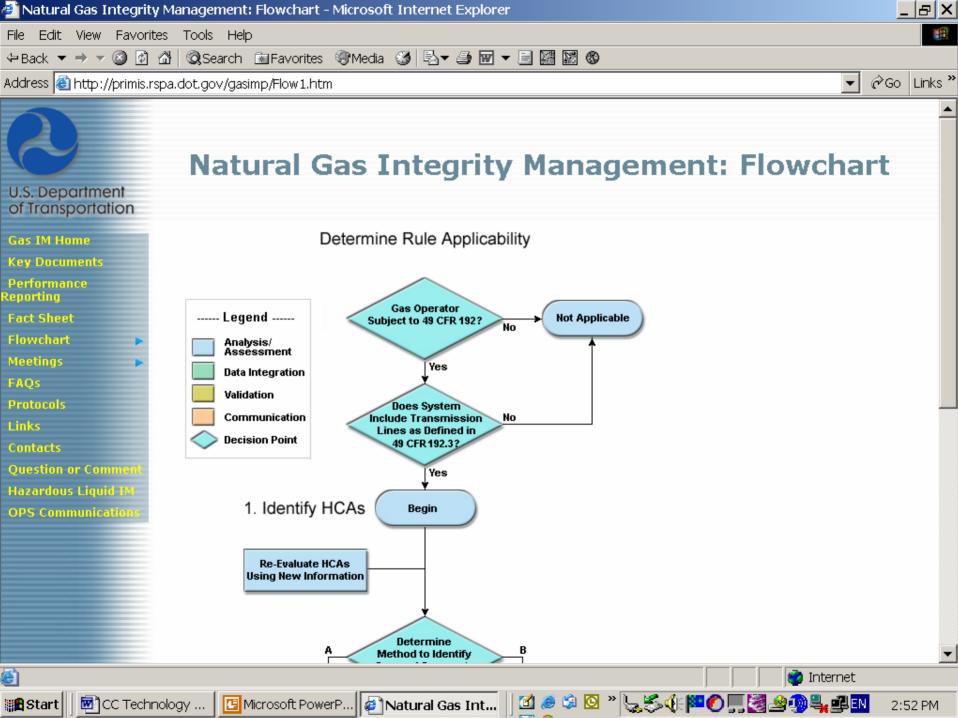
- Gas Integrity Management Web Site
 - Key Documents
 - Fact Sheet
 - Flowchart of Rule
 - Register and View Meetings

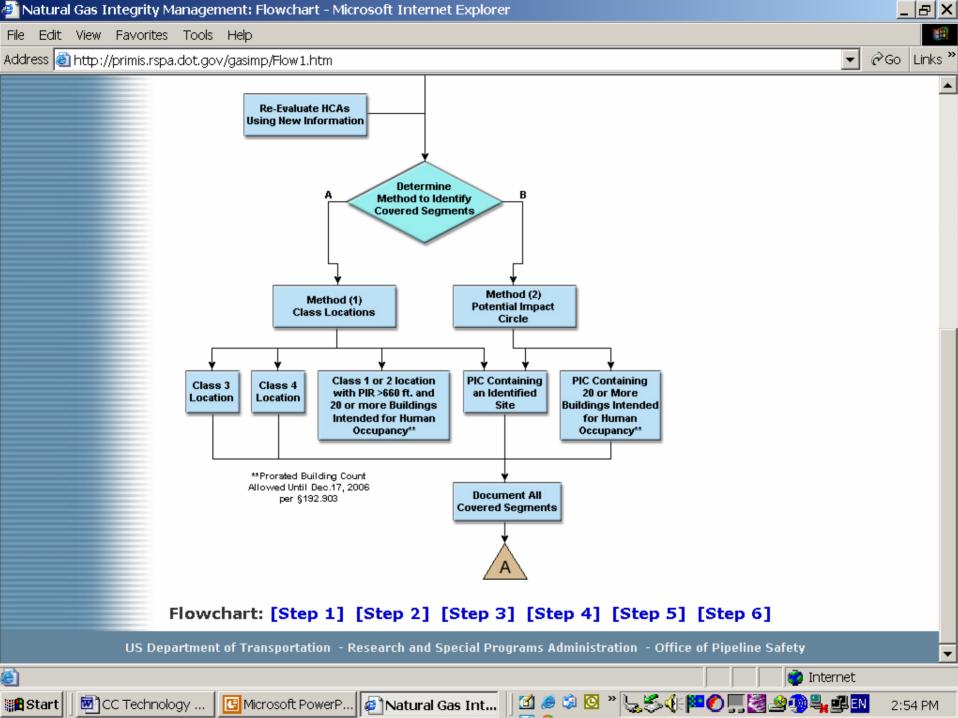


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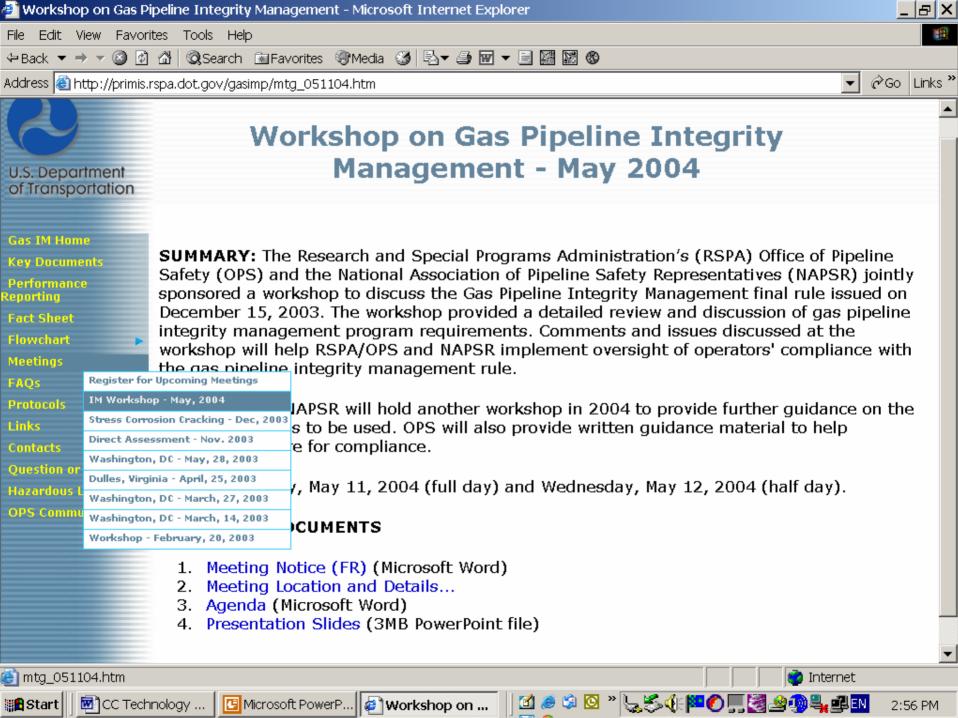


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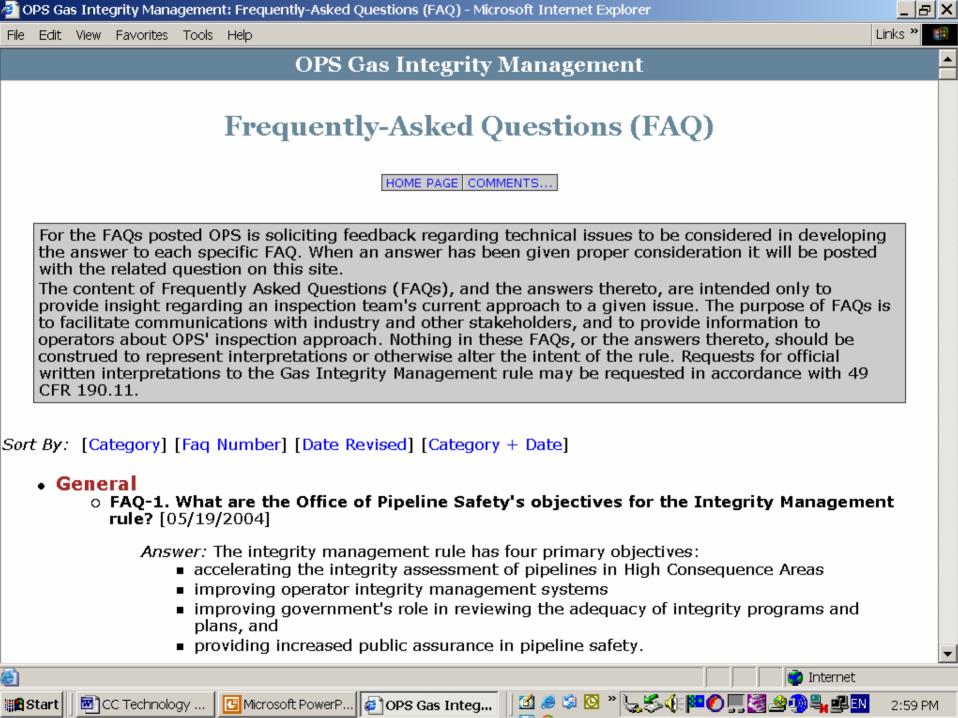




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- Gas Integrity Management Web Site
 - Frequently Asked Questions (FAQs)
 - Draft Inspection Protocols
 - Links to Other Web Sites
 - Question or Comment



after the baseline assessment is completed? [08/20/2004]

during 2011) or actual years? [06/09/2004]



Links »

Answer: Under Development FAO-41. Does the requirement that an operator establish inspection intervals not to exceed a specified number of years mean calendar years (i.e., pipe assessed in 2004 must be re-assessed

• FAQ-40. How often must periodic integrity assessments be performed on HCA pipeline segments

Answer: Re-assessments must be conducted within the specified number of actual years. For example, a pipe segment assessed on March 23, 2004 must be re-assessed before March 23, 2011. using at least confirmatory direct assessment. This segment would need to be re-assessed using one of the methods specified in the rule before March 23, 2014, March 23, 2019 or March 23, 2024, depending on its operating stress (see 192, 939).

• FAQ-42. Must operators conduct re-assessments before they have completed all baseline assessments? [05/17/2004]

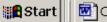
established for each covered segment and full reassessment, confirmatory direct assessment, or lowpressure reassessment must be performed within seven years after the baseline assessment for that segment is completed (or less if the operator's risk evaluation determines that a shorter interval is needed to assure pipeline integrity). Thus, some re-assessments will be required before all baseline assessments are completed if operators use the entire ten-year period to perform baseline assessments.

Answer: All baseline assessments must be completed by December 17, 2012, ten years after the enactment of the Pipeline Safety Improvement Act of 2002. Re-assessment intervals must be

For example, a HCA pipeline segment that is assessed (baseline) in 2004 will require re-assessment no later than 2011.

 FAO-43. Can a re-assessment interval be extended beyond the maximum interval specified in **192.939?** [05/17/2004]

Answer: OPS can grant waivers from the reassessment intervals specified in 192,939 in instances in which appropriate inspection tools are not available or where conducting an assessment would imperil has supply. Operators must apply for such waivers at least 180 days before the end of the





































































3:03 PM

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Protocol Areas

Follow links below to see protocol elements for each area:

The draft OPS Inspection Protocols for implementing Gas Integrity Management are posted below for review and comment. Please note the Inspection Protocols are in *Draft* and are subject to change. Following the links for each protocol will provide additional detail and regulation references. If you would like to print the entire set of draft protocols for a given program element, use the **View as Form** link to display all the protocols. Comment on any Protocol can be submitted by using the **Question and Comments** link. Please identify the protocol for which you are providing comments by its unique alpha-numeric designation (e.g., A.1, A.2, etc.).

- A. Identify HCAs
- B. Baseline Assessment Plan
- C. Identify Threats, Data Integration, and Risk Assessment
- D. DA Plan
- E. Remediation
- F. Continual Evaluation and Assessment
- G. Confirmatory DA
- H. Preventive and Mitigative Measures
- I. Performance Measures
- J. Record Keeping
- K. Management of Change (MOC)
- L. Quality Assurance
- M. Communications Plan
- N. Submittal of Program Documents
- O. Minimize Risks
- P. New HCAs

Protocol Area A. Identify HCAs

Home Protocol Areas View as Form

Protocol: A B C D E F G H I J K L M N O P

A.1 Program Requirements

Verify that the methods defined in §192.903 High Consequence Area (1) and/or §192.903 High Consequence Area (2) are applied to each pipeline for the identification of high consequence areas. [§192.905(a)] [See Details...]

A.2 Potential Impact Radius

Verify that the definition and use of otential impact radius for establishment of high consequence areas meets the requirements of §192.903. [§192.905(a)] [See Details...]

A.3 Identified Sites

Verify that the operator's identification of identified sites includes the sources listed in §192.905(b) for those buildings or outside areas meeting the criteria specified by §192.903, and that the source of information selected is documented. [§192.903 Identified Sites, §192.905(b) and §192 Appendix E, I(c)] [See Details...]

A.4 Identification Using Class Locations (Method 1)

If the operator's integrity management program relies on §192.903 High Consequence Area definition (1) for identification of high consequence areas, verify compliance with the following:

[See Details...]

Protocol Item A.1

All Protocol Areas Protocol A Next » Last »»

A.1 Program Requirements

Verify that the methods defined in §192.903 High Consequence Area (1) and/or §192.903 High Consequence Area (2) are applied to each pipeline for the identification of high consequence areas. [§192.905(a)] [P,I]

- a. Verify the operator's integrity management program includes documented processes on how to implement methods (1) and (2) in order to identify high consequence areas. [§192.905(a)] [P]
- Verify that the operator's process requires that the method used for each portion of the pipeline system be documented. [§192.905(a)] [P,I]
- c. Verify that the operator's integrity management program includes system maps or other suitably detailed means documenting the pipeline segment locations that are located in high consequence areas. [§192.905(a)] [P,I]
- d. Review HCA records to verify that the operator completed identification of pipeline segments in high consequence areas by December 17, 2004. [§192.907, §192.911(a)] [P,I]

- Gas Integrity Management Web Site
 - Frequently Asked Questions (FAQs)
 - Draft Inspection Protocols
 - Links to Other Web Sites
 - Question or Comment

Office of Pipeline Safety	
Research and Special Programs Administration	
State Regulator Links	
National Association of Pipeline Safety Representatives	
National Association of Regulatory Utility Commissioners	L k
reactional 71330 classical of Regulatory of the Commissioners	
Pipeline Industry Links	
Amercian Gas Association	
Association of Oil Pipelines	
American Petroleum Institute	
American Public Gas Association	
Interstate Natural Gas Association of America	
Midwest Energy Association	
Northeast Gas Association	
Pipeline Research Council International, Inc.	
<u>SGA</u>	
Other Links	
American National Standards Institute	
American Society of Civil Engineers	
ASME International	
ASTM International	
Associated General Contractors of America	
Common Ground Alliance	
Directional Crossing Contractors Association	
Gas Technology Institute	
Geospatial Information and Technology Association	
International Association of Fire Chiefs	
International Association of Fire Fighters	
Nace International	
National Association of State Fire Marshals	
National Fire Protection Association	

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Questions and Comments for OPS

Feedback Form				
Save	Cancel			
	This	data will be held privately by OPS, and used only for wrup on your submittal.		
		Your Phone:		
		This data will be held privately by OPS, and used only for follow-up on your submittal.		
Nature of Feedback: Question Comment Problem or Bug Report Suggestion or Enhancement Re	quest			
arate form for each distinct sul ts proper attention.	bject matt	er. This helps us manage your input and		
in this field may be used partially or e	ntirely on a n	ublic website, and may also be incorporated into		
	in this field may be used partially or each	Acture of Feedback: Question Comment Problem or Bug Report Suggestion or Enhancement Request arate form for each distinct subject matters proper attention.		

<u>Protocol Development</u>

- OPS and NAPSR Created a Protocol Development Team of State and Federal Senior Inspectors
 - > States of NY, LA, OH, NV, and AL
- Utilized Experience with Hazardous Liquid Integrity Management Protocol Development
- Goal of Keeping Inspection Protocols Tied Tightly to the Gas Integrity Management Regulation

Protocol Development

- Draft Inspection Protocols Developed and Posted on Gas IM Public Website for Feedback
 - Also Reviewed by Industry Team Reviewing FAQs
- Pilot Testing of Inspection Protocols
 - Duke, El Paso, PG&E, and BG&E
 - Provided Live Setting for Testing Protocol Questions

Protocol Development

- Pilot Testing of Inspection Protocols
 - Provided Feedback Regarding Protocol Questions
 - Provided Sense of Timing for Conducting Inspections
 - Provided a Sense of Protocol Order for Inspections
- Protocols Were Adjusted Based on the Pilot Testing and Are Posted on the Gas IM Public Website

- Inspection Teams will be Multi-Regional
 - Includes State Participation
- Pre-Inspection
 - Scheduled a Few Weeks Prior to Actual Inspection
 - Face to Face or by Conference Call
 - Coordinates Inspection Logistics Where, Who, When, Etc.

 Inspections Estimated to be Two Weeks in Duration

- Inspection Team Will Caucus After Each
 Protocol Section
 - Provides Inspection Consistency
 - Assures Complete Communication of Issues

 Exit Interview Held at Completion of Each Week

- Operator Presentation of Process and Procedures for Completing a Task is Helpful
 - Plan Development, HCA Identification, Direct Assessment, MOC, Threat Analysis, etc.

- Inspection Teams will Check Implementation Using Vertical Slice of a Process
 - Randomly select a process or procedure and follow it through to completion
- Process and Implementation Audit
 - Review of Operator Process and Implementation Records
 - Little, if any, Field Activity Planned

State/Federal Coordination

- Inter-state Agents Will Participate in Federal Inspections
- If Intra-state Pipelines are Included in an Operators Plan:
 - State Pipeline Safety Programs With Safety Authority will be Invited to Participate in the Federal Inspections

State/Federal Coordination

- Intra-state Programs are Encouraged to Participate, however, Travel Budgets and Scheduling May Prohibit Their Participation
- Operators Prompted by OPS, Will be Asked to Extend the Invitation to Intrastate Programs

Inspector Training

- Minimum Training Set Developed in Conjunction with NAPSR
 - ILI, Corrosion, Joining, and Integrity Management (Protocol Training)
- CBT Development Underway Direct Assessment, Risk Models, Management Systems

Actions For Successful Audit

- Have <u>Detailed</u> Processes and Procedures for Gas IM Activities Being Conducted
- Have a <u>Framework</u> for Processes and Procedures Under Development – Activities Not Being Conducted

Actions For Successful Audit

 Implement – Follow Your Processes and Framework

- Be Aware of Compliance Dates and Document Implementation
- Provide a <u>Presentation</u> on Development and Implementation of Each Protocol Section

Actions For Successful Audit

 Provide OPS Access to IM Processes and Procedures Prior to Inspection via CDs or Web Access

 Take a Conservative Approach to Assumptions

Follow FAQ Guidance